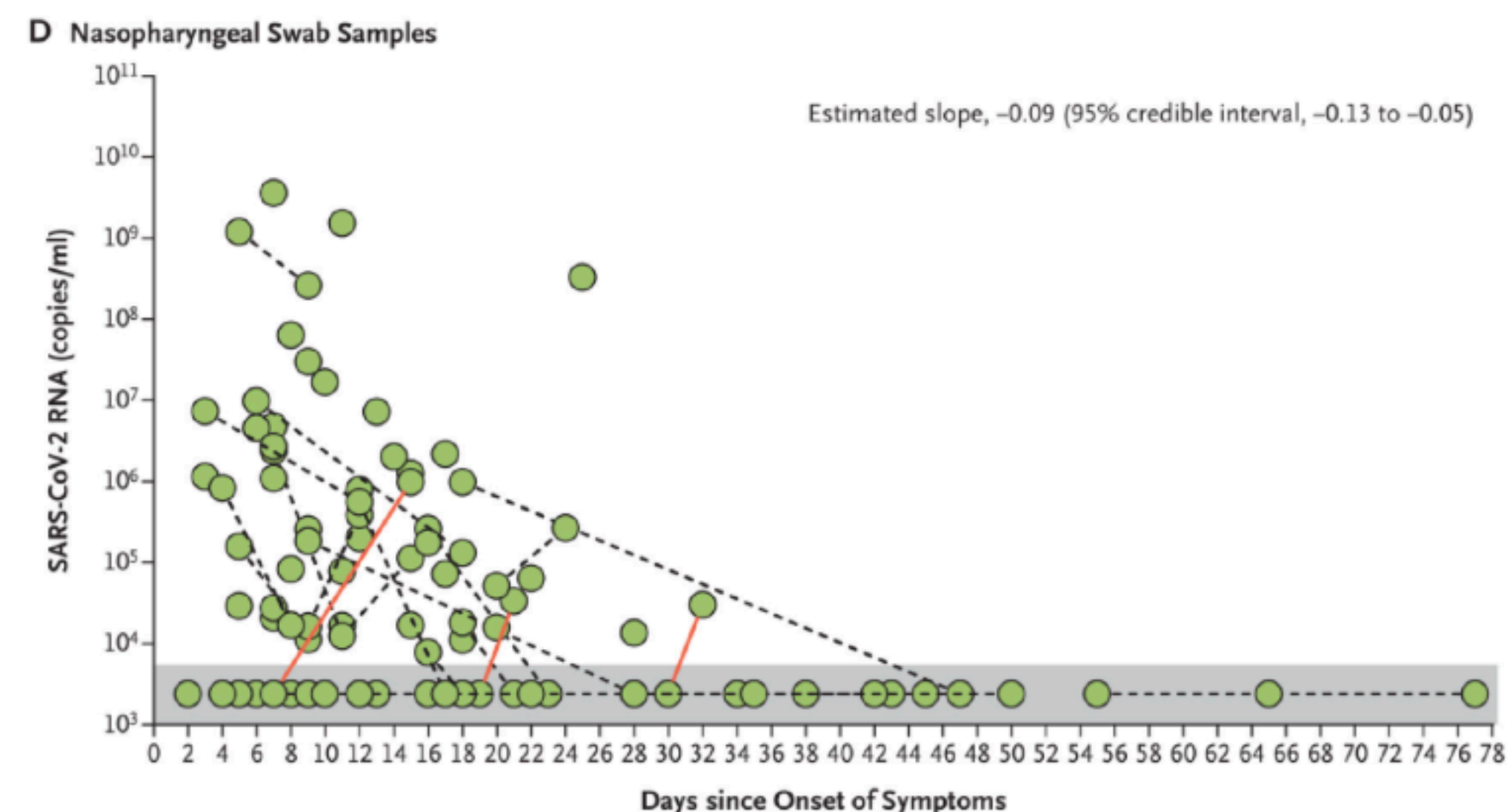
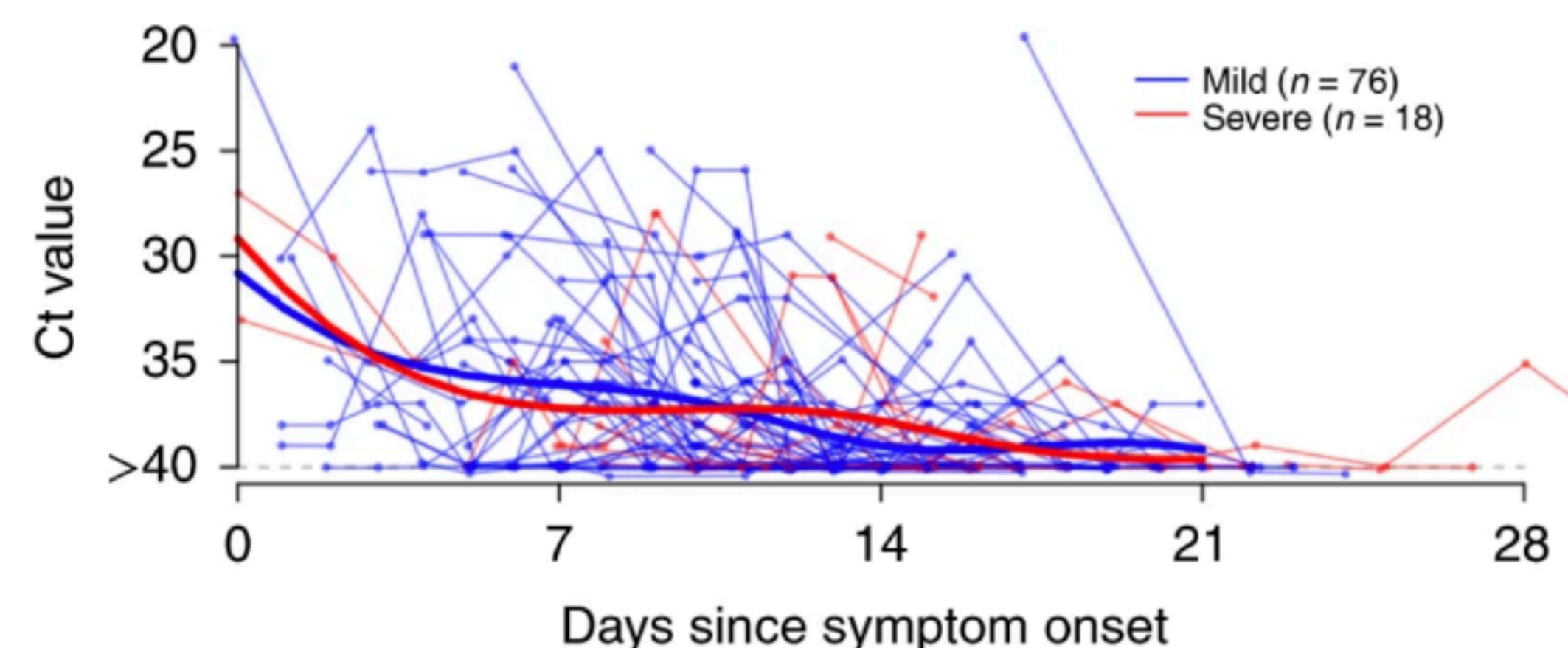


# Measuring viral load: challenges

If testing is triggered by symptoms, we miss the first part of infection:

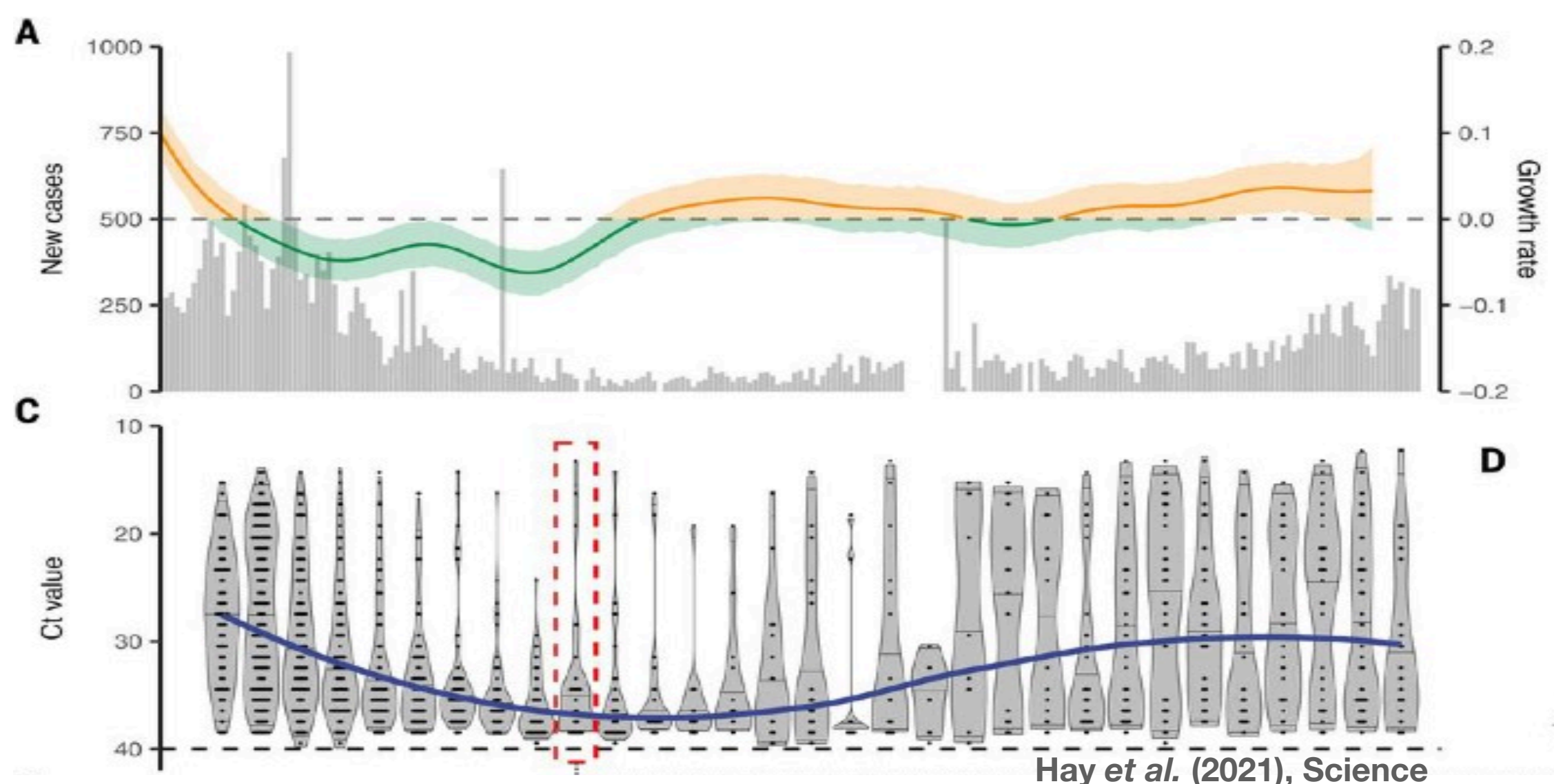
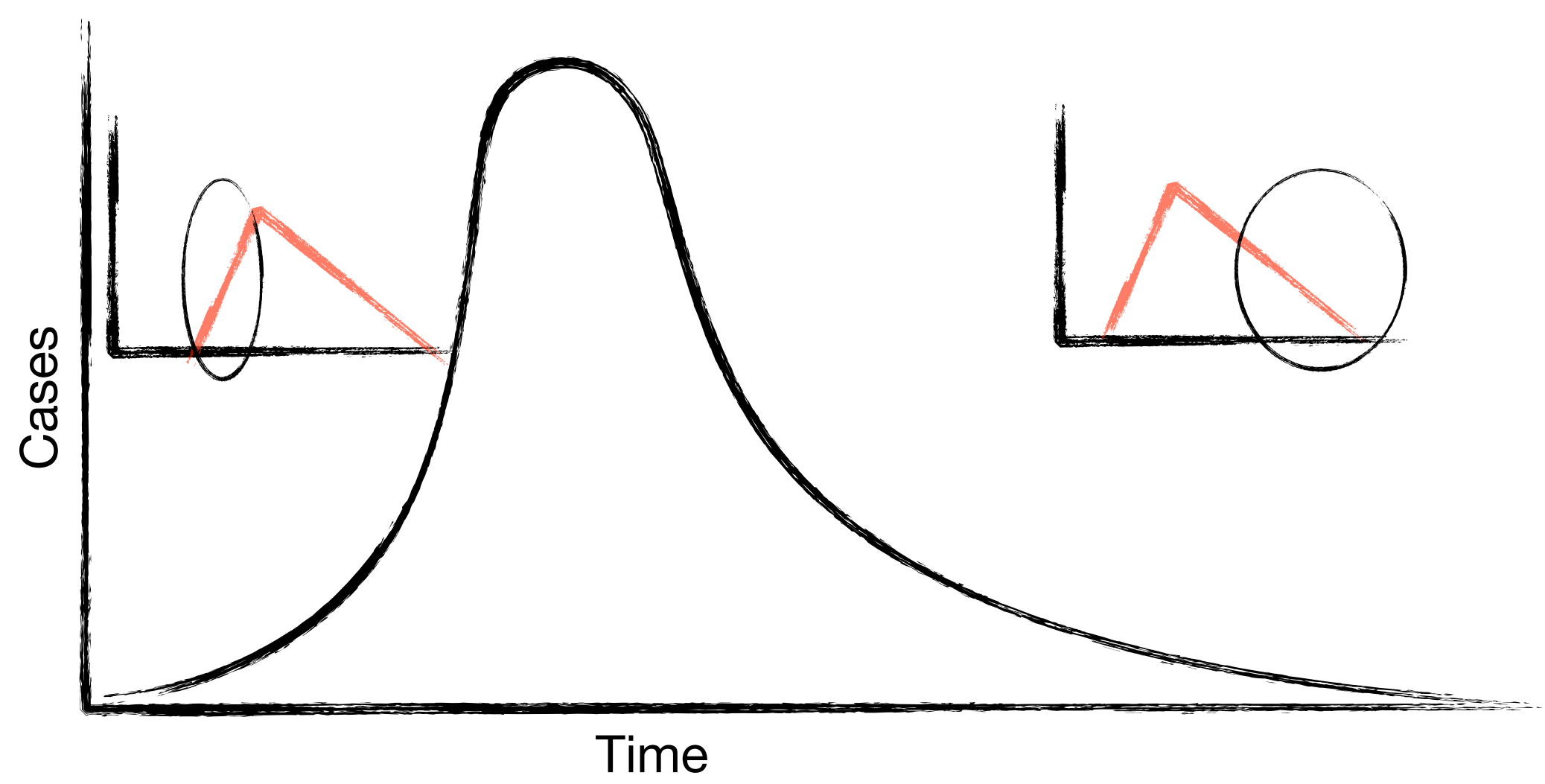


Wyllie *et al.* (2020), NEJM



He *et al.* (2020), Nature Medicine

Viral load statistics can be affected by when we sample relative to the epidemic:



Hay *et al.* (2021), Science






# SARS-CoV-2 viral load data

**PLOS BIOLOGY**

**Viral dynamics of acute SARS-CoV-2 infection and applications to diagnostic and public health strategies**

Stephen M. Kissler, Joseph R. Fauver, Christina Mack, Scott W. Olesen, Caroline Tai, Kristin Y. Shiue, Chaney C. Kalinich, Sarah Jednak, Isabel M. Ott, Chantal B. F. Vogels, Jay Wohlgemuth, James Weisberger, John DiFiori, [ ... ], Yonatan H. Grad [ view all ]

The NEW ENGLAND JOURNAL of MEDICINE



**Viral Dynamics of SARS-CoV-2 Variants in Vaccinated and Unvaccinated Persons**

Stephen M. Kissler, Ph.D., Joseph R. Fauver, Ph.D., Christina Mack, Ph.D., Caroline G. Tai, Ph.D., Mallery I. Breban, Ph.D., Anne E. Watkins, Ph.D., Radhika M. Samant, Ph.D., Deverick J. Anderson, M.D., M.P.H., Jessica Metti, Ph.D., Gaurav Khullar, M.D., Rachel Baits, Ph.D., Matthew MacKay, Ph.D., Daisy Salgado, Ph.D., Tim Baker, Ph.D., Joel T. Dudley, Ph.D., Christopher E. Mason, Ph.D., David D. Ho, M.D., Nathan D. Grubaugh, Ph.D., Yonatan H. Grad, M.D., Ph.D.

medRxiv

BMJ

Yale

THE PREPRINT SERVER FOR HEALTH SCIENCES

**The impact of immune history and variant on SARS-CoV-2 viral kinetics and infection rebound**

 James A. Hay,  Stephen M. Kissler, Joseph R. Fauver, Christina Mack, Caroline G. Tai, Radhika M. Samant, Sarah Connolly, Deverick J. Anderson, Gaurav Khullar, Matthew MacKay, Miral Patel, Shannan Kelly, April Manhertz, Isaac Eiter, Daisy Salgado, Tim Baker, Ben Howard, Joel T. Dudley, Christopher E. Mason, Manoj Nair, Yaoxing Huang, David D. Ho, Nathan D. Grubaugh,  Yonatan H. Grad

doi: <https://doi.org/10.1101/2022.01.13.22269257>

- Frequent (~daily), prospective (not triggered by symptoms) combined anterior nasal and oropharyngeal swabs
- Participants in the NBA occupational health program: players, staff, vendors, and family members
- Ct values measured by Roche cobas Target 1
- Conversion from Ct to log10 RNA copies/ml calculated using a standard curve
- Samples sequenced by colleagues at Tempus; analysis led by Joseph Fauver and Nathan Grubaugh

